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IV. *Description of the British Lizards; and of a new British Species of Viper.* By Revett Sheppard, A. B. F. L. S.

Read March 2, 1802.

THE class of the animal creation denominated by Linnæus *Amphibia*, is enveloped in great obscurity from the antipathy which mankind almost invariably entertain to the subjects that compose it. It is this that rendered Mr. Pennant's description of the Lizards of our own country so very short and unsatisfactory as we find it. He describes but three species, viz. *Lacerta agilis*, *L. palustris*, and *L. vulgaris*; merely mentioning two others from Ray's Synopsis, viz. *Lacertus parvus terrestris fuscus oppido rarus*, and *Lacertus terrestris anguiformis in ericetis*: and from Ray's very cursory account, it seems evident that he described them only from report. Thus then the British Lizards hitherto described may, I think, be fairly reduced to three. To these I have been fortunate enough to add two, if not three, that are entirely new.

DIV. I. LAND LIZARDS.

\* *Scaly, with round verticillated tails.*

1. LACERTA AGILIS. SCALY OR SWIFT LIZARD.

*Head*, upper part light brown, with a few black spots; dirty white beneath.

*Back*, ground colour light brown; a line of irregular black spots along the middle; next to this a stripe, spotted alternately with black and white; then succeeds a broad dark brown one, with

a line of black and white spots in it: all these lines extend from the head to the end of the tail.

*Belly*, in some of a dull white; in others a bright yellow.

*Tail*, on the under part dirty white, beautifully mottled with black spots; the latter, however, in some specimens are wanting.

*Legs*, light brown above, spotted with white on the sides, and beneath of the same colour as the belly.

*Feet*, both fore and hind, have five toes on each, furnished with nails.

*Length*  $6\frac{1}{2}$  inches.

2. LACERTA CEDURA. SWELLED-TAILED LIZARD.

*Head*, upper part dark brown, with a few black spots; under part dull white, mottled with black.

*Back*, on the middle a black list; on each side of that a broad brown one with a line of black spots in it; then a narrow stripe of alternate yellow and brown spots; beneath this a broad, brownish black stripe with a line of yellow spots in it: these lines all end about half an inch beyond the hind legs.

*Sides* finely mottled with black and white.

*Belly* of a beautiful orange (in some yellow, in others dirty white,) spotted with black.

*Tail* bulging out a little below the base (where the lines down the back terminate), which gives it the appearance of having been cut off and set on again: this is of a light ash colour, with a few long black marks at the end, and a large red mark on the under part at the base; the latter, however, varies according to the colour of the belly.

*Legs*, light brown above, black and white on the sides, and beneath red, yellow, or dull white (according to the belly), variegated with black spots.

*Feet*

*Feet* have all five toes, with nails.

*Length*  $4\frac{1}{2}$  inches.

This species I have at different times found in vast abundance; yet not having seen it described in any of the books that I have had access to, I have ventured to call it a new species, under the name, expressive of its conformation, of *Oedura*, or Swelled-tail.

3. LACERTA ANGUIFORMIS. VIPERINE LIZARD.

*Head* very light brown above, with four dark spots; yellowish white beneath.

*Back* with a black line along the middle, reaching from the head to about half an inch beyond the hind legs; on each side of this a broader one of dark brown (these beyond the black line unite, and reach to the end of the tail); next to these succeeds a fine yellow stripe that extends to the end of the tail; then a black one, which reaches no further than the middle line, and afterwards a dark brown stripe mixed with a few yellow spots extending to the end of the tail. A little above the hind legs, in some specimens, is a slight division of the scales, forming a transverse line.

*Belly* yellowish white, with a few black spots.

*Tail*, under part dirty white, spotted with black as far as within an inch of the end; the remainder marked lengthways with long bars of black.

*Legs* dark brown spotted with black.

*Feet* have all five toes, with nails.

*Length* 7 inches and upwards: I saw one specimen above a foot long, but was not able to catch it.

This lizard, which I think may, with propriety, be described under the name of *Anguiformis*, I have once or twice found

near marshes, but its general abode is upon heaths: this circumstance, together with its viperine appearance and colours, which have more than once deceived me in hastily passing it, induce me to suspect that it must be the *Lacerta anguiformis* of Ray.

\*\* *Without scales, tail compressed sideways.*

4. LACERTA VULGARIS. BROWN LIZARD.

*Head* compressed; upper part yellow brown, marked with minute dark brown spots: on the forehead of some is a large dark spot; under part yellowish white.

Upper *Eye-lids* dark brown; lower ones dull yellow.

*Back* yellow brown, with minute darker spots; two deep brown lines reach from the head to the end of the tail.

*Belly* and under part of the tail red, with a few black dots.

*Tail*, sides ribbed with dark brown.

*Feet* without nails: fore feet with four, and the hind ones with five, toes.

*Length* 4 inches.

DIV. II. WATER LIZARDS.

*Without scales, tails compressed sideways.*

5. LACERTA PALUSTRIS. WARTY LIZARD.

The whole animal, except on the belly, is covered with small warts.

*Head* compressed; black above, and below light brown, with white spots or warts.

*Back*, black brown spotted with black.

*Sides* light brown, with white spots.

*Belly* rich orange colour, bordered with fine large black spots.

*Tail*,

*Tail*, with an obsolete white mark on the flat sides reaching to the end; the under edge yellowish red, the upper yellow, or in some specimens black: it tapers to a point.

*Feet*, those before divided into four, the others into five, toes, all without nails: near the insertion the toes are dusky, at the ends yellowish spotted with black.

*Length* 6 inches, of which the tail occupies half.

6. LACERTA MACULATA\*. SPOTTED LIZARD.

General colour pale greenish brown.

*Head* much compressed; on the upper part are two lines of black dots; the under part is of a yellowish white, with dark brown spots.

Upper *Eye-lids* very prominent (like those of the frog).

*Eyes*. Irides orange; pupil black.

*Nose* with a slight longitudinal indenture, in which is a yellowish mark.

*Back* with two brown lines, which run to the end of the tail: these commence one on each side of the head, but in some specimens are wanting.

*Sides* spotted with brownish black in lines which generally extend to the end of the tail; but in one specimen that I have by me, only a little beyond the hind legs.

*Belly* bright red, with dusky spots.

*Tail* tapering to a point; the upper edge black, under edge orange.

*Feet*, those before with four, the others with five, toes; all without nails, and of a greenish brown.

*Length* 4 inches, of which the tail forms half.

This very common lizard seems hitherto to have been undescribed: I have, therefore, named it *Lacerta maculata*.

\* An *Lacerta aquatica* Linn.?

I confess myself very much perplexed with the description Mr. Pennant has given (*Brit. Zool.* iii. 23.) of "some very minute young lizards" that were found under stones and old logs of wood: he says they had much the appearance of *Lacerta palustris*; "were perfectly formed, and had not the least vestiges of fins," the indications of the larva state. These little lizards appear to me to have been a new species, as it is well known that all lizards attain their full growth in their larva state; and it is not till after this period that they lose their fins.

*Observations on the Larvæ of Lizards.*

Mr. Pennant has remarked of the larvæ of the *Lacerta palustris* (*Brit. Zool.* iii. 24.), that "they have a fin above and below their tail; and that on the upper part extends along the back as far as the head, but both drop off as soon as the animal *takes to the land*, being then no further of any use." In addition to this I have to observe, that the fin on the back extends not merely as far as the head, but quite over it to the nose; that it is very broad and scalloped, and thus gives to the animal a somewhat formidable appearance. As to his assertion, that they *take to the land* on changing from their larva state, frequent observation has confirmed to me that it is erroneous. The fins certainly fall off, and the animals attain their perfect state in the water. That they are sometimes afterwards found on land is true, but this is only in consequence of the ponds in which they were living being dried up by the heats of summer: being, therefore, under the necessity of changing their situation, and finding no other ponds near, they naturally creep for shelter under large stones, and into moist and shady places. I have almost always had occasion to remark, that those found in such situations were lean and enfeebled; and this, in addition to my having very frequently found them in a

perfect form in the water, affords good reason for supposing that their situation on land is at once both irksome and unnatural to them.

My *Lacerta maculata* appears to be only what Linnæus has described as the larva of *Lacerta vulgaris*, but merely, I suppose, from the two dark lines which reach from the head to the end of the tail. My specimens are, however, in a perfect state without fins: and the larvæ which I have seen have, like *L. palustris*, a fin upon the back, and above and below the tail: they are also covered with large dark spots. This, as well as the former species, will take a bait either in a perfect or a larva state.

*Lacerta vulgaris* I have seen of all sizes, from one to four inches in length, but never in any other than a perfect state: a sufficient proof that, like the rest of the *land* lizards, it undergoes no change; and that it is perfectly distinct from *L. palustris*, and *L. maculata*, both of which attain to their full growth in the larva state.

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From these observations on the genus *Lacerta*, I proceed to the description of a beautiful species of *Coluber* that I have lately discovered, to which I have given the name of *Ceruleus*, from the elegant azure blue of its belly. This certainly deserves to be ranked as a distinct species full as much as *C. Prester*. When I killed the animal I took down an account of the scuta and squamæ, which I have since lost. They differed in number from those both of *C. Berus* and *C. Prester*; but among the great numbers of snakes and vipers that I have killed and examined, I scarcely ever found two of the same species that had a like number of scuta and squamæ: a sufficient indication how imperfect a part of the specific character these form.

COLUBER CÆRULEUS. BLUE-BELLIED VIPER.

*Head*, upper part light brown, marked with a dark brown spot in the form of a V; under part, scales yellowish white, edged with dull red.

*Irides* red; pupil brownish black.

*Scales* on the margin of the upper jaw yellowish white, edged with brown: jaws somewhat compressed sideways.

*Back* light brown, and a string of dark brown rhomboidal marks reaching from the head to the end of the tail.

*Sides* spotted with dark brown.

*Belly*, the scuta light blue, spotted, particularly at the edges, with white: the first row of scales which margin the scuta is edged with white.

*Length* 21 inches 10 lines\*; head 10 lines: from the head to the anus  $18\frac{1}{4}$  inches; and from the anus to the tip of the tail  $2\frac{1}{4}$  inches. In the last division the first two inches on the under part are blue, edged with red, and the remaining half inch yellow, spotted with white.

\* I have since caught another that measures 25 inches in length.